

## CLAIMS

1. In a subscriber television system, a method for determining at a decoder a service group associated with the decoder, the subscriber television system including a headend, at least one  
5 node, and a transmission medium for transmitting signals between the headend, any nodes, and the decoder, the method comprising the steps of:

(a) retrieving a service group table from a signal on the transmission medium;

(b) retrieving tuning information from the service group table, the tuning information including at least one frequency;

10 (c) tuning to a frequency retrieved from the tuning information

(d) determining if a valid signal is present at the tuned frequency;

(e) if a valid signal is detected at the tuned frequency, designating the service group from the service group table associated with the tuned frequency as the service group for the decoder, otherwise, repeating steps (c) - (e) for the remaining frequencies in the service group table until  
15 the valid signal is detected and designating the service group of the subsequent frequency with the valid signal as the service group for the decoder; and

(f) storing the associated service group on the decoder.

2. The method of claim 1, further comprising the step of comparing, prior to storing the  
20 associated service group, the associated service group with a currently stored associated service group stored on the decoder and, if the associated service group and the currently stored associated service group are different, transmitting to the headend from the decoder a message with the associated service group.

25 3. The method of claim 1, wherein the step of determining whether a valid signal is present on the tuned frequency comprises determining whether the tuned frequency includes an MPEG transport stream.

4. The method of claim 3, further comprising the steps of:  
30 determining a transport stream identification of the valid signal; and  
using the transport stream identification to determine the associated service group, wherein the service group table includes at least one transport stream identification associated with each frequency listed in the service group table.

5. The method of claim 1, wherein the decoder is a home communications terminal, a television, or a computer.

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6. In a subscriber television system, a method for determining a service group association of at least one decoder, the subscriber television system including a headend, at least one node, a plurality of decoders, and a transmission medium for transmitting signals between the headend, the at least one node, and the plurality of decoders, the method comprising the steps of:

5       creating, at the headend, a service group table for the subscriber television system;  
      causing to be transmitted, from the headend, the service group table via the transmission medium to the at least one decoder;

      receiving a message, at the headend, from the least one decoder, the message including the service group associated with the at least one decoder; and

10       recording, at the headend, the relationship of the decoder to the associated service group.

7. The method of claim 6, wherein the service group table is in a Moving Picture Experts Group table format.

15       8. The method of claim 6, wherein the decoder is a home communications terminal, a television, or a computer.

9. A modulator for transmitting a service group table in a subscriber television system, the modulator comprising:

- a means for creating a service group table; and
- a transmitter for transmitting a service group table.

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10. The modulator of claim 9, wherein the modulator is a Quadrature Amplitude Modulation modulator.

11. The modulator of claim 9, further including a means responsive to commands for  
10 controlling the creation of the service group table.

12. The modulator of claim 9, wherein the service group table is inserted into an MPEG  
(Motion Picture Experts Group) transport stream.

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13. A decoder capable of determining its association with a service group of a subscriber television system, the subscriber television system having a headend, at least one node, the decoder, and a transmission medium for transmitting signals between the headend, the at least one node, and the decoder, the decoder comprising:

- 5           a tuner for tuning to a signal received from a transmission medium;
- means for retrieving a service group table from the tuned signal;
- means for retrieving tuning information from the service group table;
- means for causing the re-tuning of the tuner to a at least one frequency indicated by the tuning information;
- 10          means for determining if a valid signal is present on the at least one frequency; and
- means for determining, from the service group table, the service group associated with the at least one frequency, if the valid signal is present on the at least one frequency.

14. The decoder of claim 13, further comprising:

- 15          a memory for storing a currently associated service group; and
- means for determining if the service group associated with the at least one frequency is the same as the currently associated service group and, if it is not, replacing the currently associated service group in the memory with the service group associated with the at least one frequency.

20          15. The decoder of claim 13, further comprising a transmitter for transmitting the service group via the transmission medium to the headend.

25          16. The decoder of claim 13, wherein the decoder is a home communications terminal, a television, or a computer.

17. A system controller for causing to be stored and updated a database of a service group association for each of a plurality of decoders of a subscriber television system, the subscriber television system having a headend, at least one node, the plurality of decoders, and a transmission medium for transmitting signals between the headend, the at least one node, and the plurality of decoders, the system controller comprising:

means for causing to be stored the database of the service group association for each of the plurality of decoders;

means for causing the creation of a service group table for the subscriber television system;

means for causing the headend to transmit the service group table to at least one of the plurality of decoders via the transmission medium;

means for receiving a message from the at least one of the plurality of decoders, the message including the service group associated with the at least one of the plurality of decoders; and

means for causing the updating of the database responsive to the service group associated with the at least one of the plurality of decoders being different from a stored service group association for the at least one of the plurality of decoders and for causing to be stored the updated database.

18. The system controller of claim 17, wherein the decoders are home communications terminals, televisions, or computers.

19. A system controller for determining service group associations of a plurality of modulators in a subscriber television system, the subscriber television system having a headend, at least one node, the plurality of modulators, a plurality of decoders, a set of audit designated decoders, and a transmission medium for transmitting signals between the headend, the at least one node, the set of audit designated decoders, and the plurality of decoders, the system controller comprising:

means for storing and updating a database of frequencies, related transport stream identities, and associated service group identities for each of the plurality of modulators;

means for causing the creation of a modulator tuning table for the subscriber television system, the modulator tuning table including the tuning frequencies related to each of the plurality of modulators;

means for causing to be transmitted, from the headend, the modulator tuning table via the transmission medium to at least one of the set of audit designated decoders;

means for receiving a message from at least one of the set of audit designated decoders, the message including the related transport stream identities determined by the at least one audit designated decoder based on tuning the frequencies related to each of the plurality of modulators, locating a valid transport stream related to the tuned frequency, and retrieving a related transport stream identification from the transport stream; and

means for causing the updating of the database responsive to the related transport stream identities associated with the at least one audit designated decoder.

20. The system controller of claim 19, wherein at least one of the set of audit designated decoders is also one of the plurality of decoders.

21. The system controller of claim 19, wherein the audit designated decoders and the plurality of decoders are home communications terminals, televisions, or computers.

22. A method of using at least one of a set of designated audit decoders at specific locations within a subscriber television system to define a service group, the subscriber television system having a headend, a plurality of modulators, a plurality of decoders, the set of audit designated decoders, and a transmission medium for transmitting signals between the headend, the set of  
5 audit designated decoders, the plurality of modulators, and the plurality of decoders, the method comprising the steps of:

establishing, in the headend, a modulator tuning table listing available subscriber television system frequency associated with the plurality of modulators;

10 transmitting the modulator tuning table from the headend on the transmission medium to at least one of the set of audit designated decoders;

retrieving the modulator tuning table at the at least one audit designated decoder;

tuning, at the at least one audit designated decoder, to each frequencies listed in the modulator tuning table and, if a valid signal is detected, retrieving an associated Motion Picture Experts Group (MPEG) transport stream identity for the tuned frequency;

15 transmitting to the headend, by the at least one audit designated decoder, the retrieved associated transport stream identities for the tuned frequency associated with the at least one audit designated decoder; and

20 defining as the service group the subset of modulators associated with the transport stream identities of the tuned frequencies with a valid signal of the at least one audit designated decoder and associated with the specific location of the at least one audit designated decoder.

23. The method of claim 22, wherein the at least one audit designated decoder and the plurality of decoders are home communications terminals, televisions, or computers.

25 24. The method of claim 22, further including the step of defining all the service groups of the subscriber television system based on the subset of modulators associated with the transport stream identities of the tuned frequencies with a valid signal and associated specific location of each of the set of audit designated decoders.

30 25. The method of claim 22, wherein at least one of the set of audit designated decoders is also one of the plurality of decoders.